Remarks

Applicant thanks the Examiner for the interview of December 6, 2005 and for her suggestions at that interview. As a result of the interview, a new set of claims directed to the precursor web (claims 61 through 65) are presented with this amendment. Also with this amendment claims 25, 27 (an independent claim) - 29 have been cancelled. Claims 48-71 are pending of which 48, 52, 61 and 67 are independent. Independent claims 48 and 52 have been amended and independent claims 61and 67 have been added. Applicant especially directs the Examiner's attention to claims 61-66 directed to the precursor web.

The Problems Solved By The Applicant

As discussed in the specification, metal foils used in multilayered insulation products which include a polyurethane insulation, would rip or tear when the foil is pulled into the machine to apply to the insulation to it. For example, the metal foil would tear when applied to urethane, which when polymerized, would cause swelling polyurethane to foam and spread over machinery and plant. To solve this problem, a glutinous plastic is applied to the metal foil and other layers associated with the foil when the polyamide is glutinous. This is especially important with polyurethane insulation where glutinous polyamide protects the foil during formation of the flowable foaming urethane and the preparation of the insulation. It is exactly at this point of vulnerability that applicant's precursor product is so important. As the specification describes the problem at page 1, lines 26-30:

> The aluminum sheet tears easily when it is pulled into the machine. For example, when coating polyrethane insulation that is still forming, the resulting malfunction causes extremely great disadvantage, as the swelling polyurethane foam spreads and stains production machinery.

The specification then describes the precursor product:

> The extrusion is carried out in such a way that the polyamide does not yet substantially crystallise. The coating 1 (the uncrystallized polyamide) thus formed is jointed to an expaned polyurethane layer 3 while it is being formed. Specification page 3, lines 18-20.

It is this precursor web which is the subject of claims 61-66. Thereafter, the foam hardens and the glutinous plastic when heated will crystallize and give the foil strength to be associated with the insulation. In the case of polyurethane insulation, the heat of the exothermal expansion and polymerization of urethane may be used to at least in part effect the crystallization of the glutinous plastic.

The references cited by the examiner in the last rejection do not suggest solving the above described problem. Indeed, they do not even recognize the problem. Moreover, the references do not suggest the precursor web product or the final product of the claims. Hence, the claimed insulation material of the invention together with its extruded crystallized polyamide is not described or suggested by the references either alone or in combination.

Rejection under 35 U.S.C. 103 over U.S. Patent No. 4,645,710 to Baitinger et al.

Baitinger describes two methods for making product where the polyamide is the adhesive as opposed to an extruded crystallized layer adhesively affixed to a metal foil, see claims 48 and 67.

> The Product of Baitinger Method 1. Prior to foaming the insulation (see col. 3, line 41) an adhesive is applied to a metal facer foil via extrusion, then prefoamed materials are contacted with the extruded adhesive which is not described as glutinous, but is just laid onto the facer. For all we know the extruded adhesive material can dry prior to foaming the insulation. Then there is foaming of the prefoam materials at ambient temperatures onto the extruded adhesive.

Baitinger's method 1 does not describe the precursor product (claims 61-66). There is no suggestion of a web having a metal layer with a glutinous polyamide together with a flowable forming urethane. See claims 61-66. Importantly there is no suggestion in method 1 of protecting a foil facer with a glutinous polyamide during foaming of an insulation and/or application of the metal foil/glutinous polyamide to the foaming insulation; the problem solved by applicant is not remotely suggested.

Further there is no suggestion of a product with an extruded crystallized amide (see claim 48), a product with a metal layer and coextruded crystallized amide and adhesive layer (see claim 67) or of extruding an amide to obtain a soft and gelatinous mass, then heating the mass to crystalize it. There is no suggestion of a crystallization temperature with heat. Only an extrusion temperature of an adhesive such as an ethylene methacrylic acid of about 300°C. In Baitinger's method 1, there is no suggestion of a product which protects a metal foil with a gelatinous polyamide. There is no suggestion of using a glutinous polyamide with later crystallization of the polyamide to make the insulation product.

The Product of Baitinger Method 2. An already formed core is contacted with an adhesive and facer; and then the layers are subjected to heat and pressure (100-300°C). See col. 3, lines 54-66.

Baintinger's method 2 merely describes a lamination product where the insulation is preformed and the temperature range merely is a lamination temperature range. Baintinger's method 2 does not make a precursor web product which includes a metal layer with a glutinous polyamide applied to a foaming flowing polyurethane. Moreover, Baintinger's method 2 does not suggest an extruded crystallized amide (see claim 48), a product with a metal layer and coextruded crystallized amide and adhesive layer (see claim 67) or extruding an amide to obtain a soft and gelatinous mass, then heating the mass to crystalize it. There is no suggestion of a crystallization with heat. In Baintinger's method 2, there is no suggestion of protecting a metal foil with a gelatinous polyamide. And, as with Baintinger's method 1, there is no suggestion in method 2 of a) protecting a foil facer with a glutinous polyamide during foaming of an insulation and/or application of the metal foil/glutinous polyamide to the foaming insulation and b) later crystallization of the polyamide.

Rejection under 35 U.S.C. 103 over U.S. Patent No. 6,044,604 to Clayton et al.

Clayton does not make a precursor web product which includes a metal layer with a glutinous polyamide applied to a foaming flowing polyurethane. Moreover, as with Baintinger's method 2 Clayton does not suggest an extruded crystallized amide (see claim 48), a product with a metal layer and coextruded crystallized amide and adhesive layer (see claim 67) or extruding an amide to obtain a soft and gelatinous mass, then heating the mass to ultimately crystalize it. There is no suggestion of a crystallization temperature with heat.

Clayton describes a foam from a mix 36 being foamed (see 42) on a preformed gypsum board 14 with a preformed facer material 15 being overlaid onto the foaming material on the gypsum board. The facer material can be an aluminum foil or a polyamide. See column 5, lines 37-43. Clayton clearly does not suggest a web with a metal layer with glutinous polyamide and a flowable foaming polyurethane or even hint of using a glutinous polyamide to protect a metal facer when applying the metal to an insulation material to later obtain a crystallized polyamide.

The polyamide is a facer alternative to a metal foil such as an aluminum foil and is brought to the foamed material as a coherent film. Clayton does not even suggest a glutinous polyamide!

In regards to claims 48 and 67, Clayton does not suggest an extruded crystallized amide (claim 48), a product with a metal layer and coextruded crystallized amide and adhesive layer (see claim 67) or extruding an amide to get obtain a soft and gelatinous mass, then heating the mass to ultimately crystalize it. As noted above, there is no suggestion of a crystallization temperature with heat.

Conclusion

In view of the above amendments and remarks, applicant respectfully requests allowance of the pending claims. The Commissioner is hereby authorized to charge any additional fees which may be required in this application to Deposit Account No. 06-1135.

Respectfully submitted,

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